

PATENT CLAIMS

1. Drive for an adjuster device in a motor vehicle with

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- a drive motor
- a drive element mounted rotatable about a drive axis and
- 10 - a device for the self-locking of the drive element which in the de-energised state of the drive motor locks the drive element with a locking element

characterised in that

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the locking element (3) for operating the drive motor (1, 2) can be brought out of engagement with the drive element (1) in the radial direction (R) relative to the drive axis (A).

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2. Drive according to claim 1 **characterised in that** the locking element (3) is lifted in the radial direction (R) from the drive element (1).

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3. Drive according to claim 1 or 2 **characterised in that** the drive element (1) is formed by a rotor of the drive motor (1, 2).

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4. Drive according to claim 3 **characterised in that** the drive element (1) is formed as a disc rotor.

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5. Drive according to one of claims 1 to 4 **characterised in that** the locking element (3) can be brought out of engagement with the drive element (1) by means of an elastic element.

6. Drive according to one of claims 1 to 4 **characterised in that** the locking element (3) can be brought electrically out of engagement with the drive element (1).

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7. Drive according to one of the preceding claims **characterised in that** the locking element (3) in the de-energised state of the drive motor (1, 2) is fixed by magnetic forces in a position locking the drive element (1).

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8. Drive according to claim 7 **characterised in that** the magnetic forces are generated by a permanent magnet (21, 22).

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9. Drive according to claim 7 or 8 **characterised in that** the magnetic forces are generated through the stator (2) of the drive motor (1, 2).

- 20 10. Drive according to one of claims 7 to 9 **characterised in that** the locking element (3) has a first magnetic section (31).

- 25 11. Drive according to claim 10 **characterised in that** through magnetising the first magnetic section (31) the locking element (3) can be fixed in a position which locks the drive element (1).

- 30 12. Drive according to claim 11 **characterised in that** the first magnetic section (31) defines a first magnetic path for magnetic flux (F).

- 35 13. Drive according to one of claims 7 to 9 and one of claims 10 to 12 **characterised in that** in the first magnetic section (31) runs a magnetic flux (F) through which the locking element (3) can be fixed in a position locking the drive element (1).

14. Drive according to one of the preceding claims **characterised in that** the locking element (3) can be brought out of engagement with the drive element (1) by energising an electromagnet (5).

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15. Drive according to claim 14 **characterised in that** the electromagnet (5) is energised at the same time as the drive motor (1,2).

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16. Drive according to claim 13 or 14 **characterised in that** the electromagnet (5) generates a magnetic field through which the locking element (3) is brought out of engagement with the drive element (1).

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17. Drive according to claim 13 and 16 **characterised in that** the magnetic field generated through the electromagnet (5) diverts the magnetic flux so that the resulting magnetic flux (F) brings the locking element (3) out of engagement with the drive element (1).

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18. Drive according to claim 13 and 16 **characterised in that** the magnetic field generated by the electromagnet (5) displaces the magnetic flux so that the resulting magnetic flux (F) brings the locking element (3) out of engagement with the drive element (1).

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19. Drive according to claim 17 or 18 **characterised in that** the resulting magnetic flux (F) runs in a side path of a second magnetic section (32) of the locking element.

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20. Drive according to claim 8 and one of claims 14 to 16 **characterised in that** the permanent magnet (3) and the electromagnet (5) are integrated in a hybrid magnetic circuit so that the permanent magnetic flux superimposes the electromagnetic flux and the locking element (3) can hereby occupy two stable positions wherein in the one stable position the drive element (1) is

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locked by the locking element (3) and in the other stable position the locking element (3) is out of engagement with the drive element (1).

- 5 21. Drive according to claim 20 **characterised in that** the electromagnet (5) is each time de-energised in both stable positions of the locking element (3).
- 10 22. Drive according to claim 20 or 21 **characterised in that** the transition from one stable position into the other stable position can be triggered by energising the electromagnet (5) with a current impulse.
- 15 23. Drive according to one of the preceding claims **characterised in that** the locking element (3) has a brake element (30) which in order to lock the drive element (1) acts on same.
- 20 24. Drive according to claim 23 **characterised in that** the brake element (30) acts with friction on the drive element (1).
- 25 25. Drive according to one of the preceding claims **characterised in that** the locking element (3) is guided movable in the radial direction (R) on a guide device (4).
26. Drive according to one of the preceding claims characterised in that the locking element (3) is displaceable in the radial direction (R).